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IPW AF/3679/
PATENT APPLICATION
09/074,496

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**APPEAL FROM THE EXAMINER TO THE
BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: James R. Albritton
Serial No.: 09/074,496
Filing Date: May 7, 1998
Group Art Unit: 3679
Examiner: John R. Cottingham
Title: BREAKAWAY SUPPORT POST FOR HIGHWAY
GUARDRAIL END TREATMENTS

MAIL STOP: APPEAL BRIEF - PATENTS
Commissioner for Patents
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Willie Jiles

Willie Jiles

Date: July 12, 2004

APPEAL BRIEF

Appellant appeals to the Board of Patent Appeals and Interferences (the "Board") from the decision of the Examiner mailed December 19, 2003 finally rejecting Claims 37 and 40 of the above-identified patent application. Appellant filed a Notice of Appeal on May 13, 2004. Appellant respectfully submits this Appeal Brief, in triplicate, and a check in the amount of \$330.00 to cover the statutory filing fee.

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Real Party In Interest

The real party in interest is Trinity Industries, Inc.

Related Appeals and Interferences

There are no known appeals or interferences of related cases which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal. Appellant has requested that an interference be declared between the present application and U.S. Patent No. 5,988,598 issued to Sicking et al. on November 23, 1999. Appellant first included interfering claims in an Amendment filed June 8, 2000 and requested that an interference be declared at that time. Appellant maintains such request.

Status of Claims

Claims 37 and 40 are pending in this application and stand rejected pursuant to a final Office Action mailed December 19, 2003 (the "Final Office Action"). Claims 5-12, 24-27, 32-33, and 39 were previously canceled. Claims 37 and 40 are presented for appeal and are shown in Appendix A.

Status of Amendments

Appellant filed an Amendment Under 37 C.F.R. § 1.116 on March 17, 2004 (the "Response") in response to the Final Action mailed December 19, 2003. In the Response, Appellant amended the Specification to cancel matter previously added in order to advance prosecution and further narrow the issues for appeal. *See* Response, page 5. Appellant did not amend the claims. In an Advisory Action mailed April 22, 2004, the Examiner agreed to enter the amendments.

Summary of Invention

The invention at issue is a breakaway support post for highway guardrail end treatments. *See* Specification, Title. Referring to Figure 4, guardrail 22 includes a breakaway support post 130 with an elongated body 132 having an upper portion 142 and a lower portion 144 rotatably coupled with each other. *See id.*, page 19, lines 24-27. A bracket 152 connects to upper portion 142 by a pivot pin 154, shear pin 156 and bracket 150. *See* Specification, page 20, line 3 - page 21, line 14. Bracket 152 also attaches to lower portion 144. *See id.* Upon impact of a vehicle with one end of guardrail 22, shear pin 156 will break

and upper portion 142 will rotate relative to lower portion 144 as illustrated in Figure 6. *See id.*, page 21, line 34 - page 22, line 3. After such impact, bracket 152 remains attached to lower portion 144. *See id.*, Figure 6.

Statement of Issues

Whether the written description and drawings provide an adequate written description of Claims 37 and 40 under the first paragraph of 35 U.S.C. §112.

Grouping of Claims

Pursuant to 37 C.F.R. §1.192(c)(7), Appellant submits that Claims 37 and 40 are separate groups and should be addressed separately. While Appellant believes that the written description issue is essentially the same for both claims, Appellant has grouped the claims separately in an abundance of caution in case Appellant's claim construction is rejected for one of the claims in a manner that would affect the outcome.

Argument

Appellant timely amended its application to include the two remaining claims at issue (Claims 37 and 40) to provoke an interference with United States Patent No. 5,988,598 issued to Sicking et al. (the "'598 Patent"). The '598 Patent is attached hereto as Appendix B. Both the invention at issue in this appeal and the invention described in the '598 Patent are addressed to the problem of improving performance of a guard rail when a vehicle crashes into it from the end, rather than along its length.

The Examiner contends that neither Claim 37 nor Claim 40 meet the written description requirement. While the specification does not literally describe *in haec verba* either Claim 37 or Claim 40, such a description has never been required under the statute. *See In re Wright*, 866 F.2d 422, 424 (Fed. Cir. 1989). Indeed, the inclusion of drawings that illustrate the claimed invention may be sufficient description in the absence of a written description. *See Vas-Cath v. Mahurkar*, 935 F.2d 1555 (Fed. Cir. 1991) (finding written description requirement met for utility patent by design patent that illustrated catheter in sufficient detail). While Figures 4-6 and the title of the present application are likely enough to defeat the Examiner's contentions, the Board need not go so far. The specification provides ample description of the structure and operation of the invention to satisfy the written description requirement as to Claims 37 and 40.

Quite simply, where the Examiner raises questions as to written description, the specification answers those questions either explicitly or implicitly. First, where the specification answers the Examiner's questions explicitly, the allegedly missing subject matter is described and would be understood as such by one of ordinary skill in the art. While the specification may not use the literal language of the claim, there is no requirement that it do so. Second, where the specification answers questions implicitly, the allegedly missing characteristics of the fastener are inherently present because the invention could not function in the manner described in the specification unless the fastener had those characteristics. The Examiner's position seems to be based upon an argument that the invention might fail if not manufactured properly. Not only are manufacturing issues irrelevant to the written description requirement, they in no way diminish the described behavior of the invention in a collision that is disclosed in the specification.

Claims 37 and 40 comply with the written description requirement of the first paragraph of 35 U.S.C. §112. The first paragraph of 35 U.S.C. §112 states that:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112, first paragraph. Claim 37, for example, provides as follows:

37. A breakaway guardrail post for highway crash control systems comprising:

an upper post member having a weak impact axis and a strong impact axis;

a lower post member disposed beneath and spaced apart from said upper post member;

a connecting joint member having a first end and a second end, said first end of said joint member connected at said first end by a first fastener to said upper post member and connected at said second end by an attachment to said lower post member, said first fastener having a first failure strength less than a second failure strength of said attachment;

said first fastener having a first connector having a first failure strength and a second connector having a second failure strength; and

said first failure strength greater than said second failure strength such that upon an impact force being applied along said weak impact axis, said second connector fails and said upper post member rotates about said first connector.

The written description requirement is satisfied as to this claim by Figures 4-6 and the accompanying text.

The Examiner contends that the claims contain subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. *See* Final Office Action, page 2, paragraph 2. In particular, the Examiner states:

Neither the drawings nor the disclosure show the fasteners or the fastener and attachment connecting the connecting joint member to the ends of the lower and upper post members, and the specification is not enabled for teaching the first and second fasteners, when referred to the welding joint of the connecting member to the upper or lower posts. Nor does the specification show this combination with the two fasteners, or fastener and attachment have different failure strengths while connecting the connecting member to the corresponding posts.

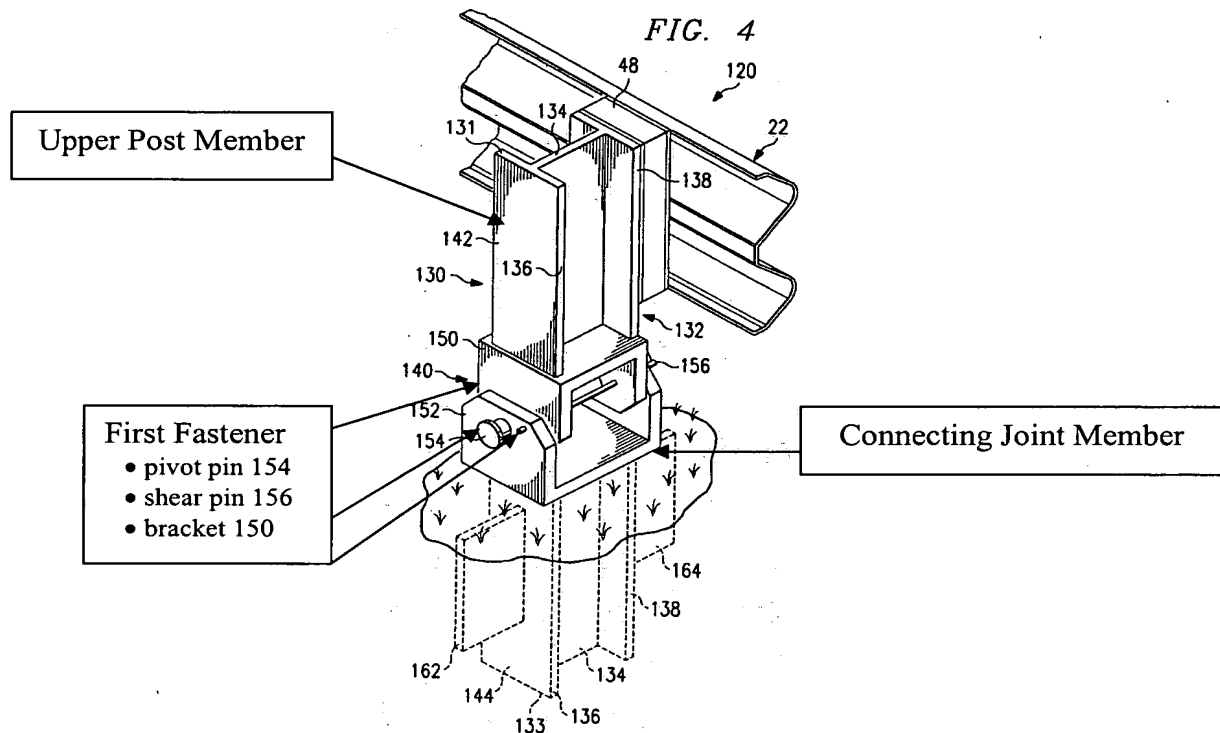
Final Office Action, page 2, paragraph 2. Thus, the Examiner alleges that: (1) the specification does not disclose the fasteners or the fastener and attachment connecting the connecting joint member to the ends of the lower and upper post members, (2) the specification does not disclose the two fasteners or fastener and attachment having different failure strengths while connecting the connecting member to the corresponding posts and (3) the specification is not enabled for teaching the first and second fasteners when referring to the welding joint of the connecting member to the upper or lower posts. Appellant addresses each argument below.

1. The Specification Describes a First Fastener and Attachment Within the Meaning of Claim 37 and First and Second Fasteners Within the Meaning of Claim 40.

Claim 37 recites "a connecting joint member having a first end and a second end, said first end of said joint member connected at said first end by a first fastener to said upper post member and connected at said second end by an attachment to said lower post member." (*emphasis added*). Claim 40 recites "a connecting joint member having a first end and a second end, said first end of said joint member connected at said first end by a first fastener to said upper post member and connected at said second end by a second fastener to said lower post member." (*emphasis added*). The Examiner erroneously contends that the drawings and written description do not disclose fasteners and/or an attachment connecting the joint member to the upper and lower post members.

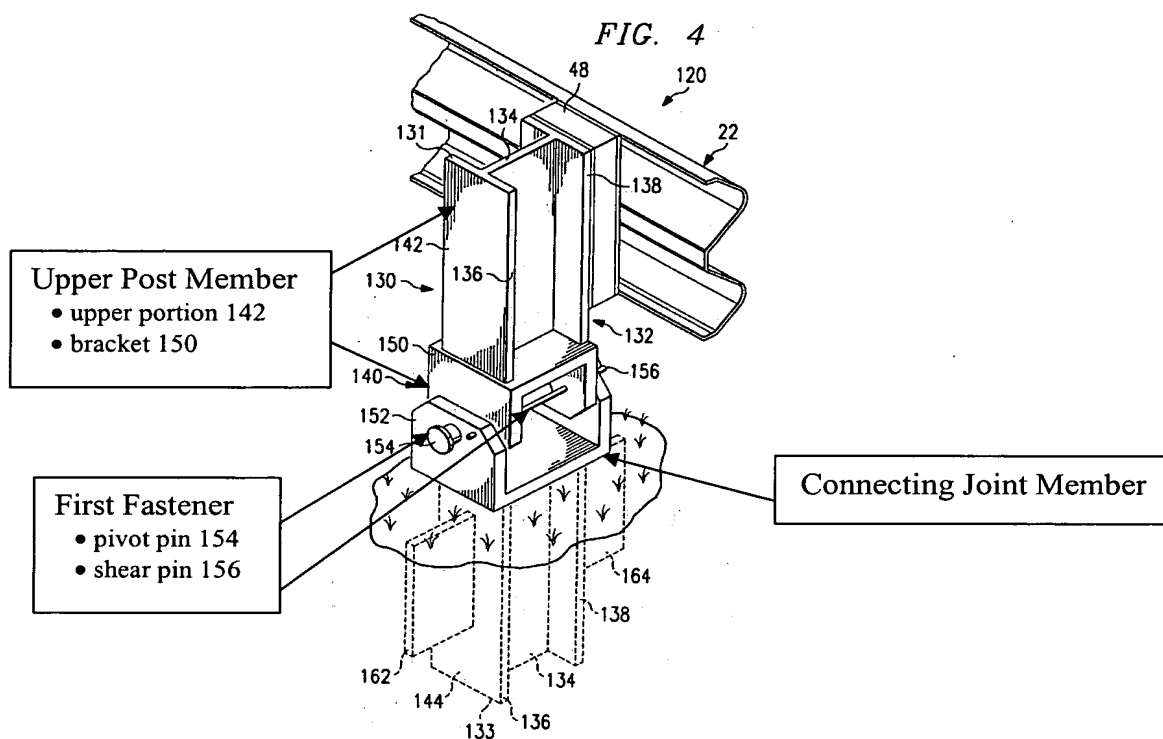
(a) The specification illustrates and describes the joint member fastened to the upper post member.

Both Claims 37 and 40 describe a first fastener that connects a joint member to an upper post member. There are at least two ways to read the relevant limitation of Claims 37 and 40 on one embodiment described in the specification. Under the first method, Figures 4-6 of Appellant's specification illustrate an embodiment with a connecting joint member (bracket 152) connected to an upper post member (upper portion 142) by a first fastener (pivot pin 154, shear pin 156 and bracket 150). *See* Specification, page 20, line 3 - page 21, line 14. Thus, under the first method, the first fastener is made up of three components, two pins and a bracket (as illustrated below).



Under the second method of interpretation, the claimed upper post member constitutes upper portion 142 and bracket 150 (as illustrated below). In the absence of an indication to the contrary, a member may be comprised of multiple components. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367-68 (Fed. Cir. 2002) (holding that the claim term "member" could comprise multiple components). Thus, both upper portion 142 and bracket 150 may be considered to be at least a part of an upper post member. In such instance, Figures 4-6 illustrate an embodiment with a connecting joint member (bracket 152)

connected to an upper post member (upper portion 142 and bracket 150) by a first fastener (pivot pin 154 and shear pin 156). *See* Specification, page 20, line 3 - page 21, line 14. Under the second method, the first fastener is made up of two components, two pins (as illustrated below).



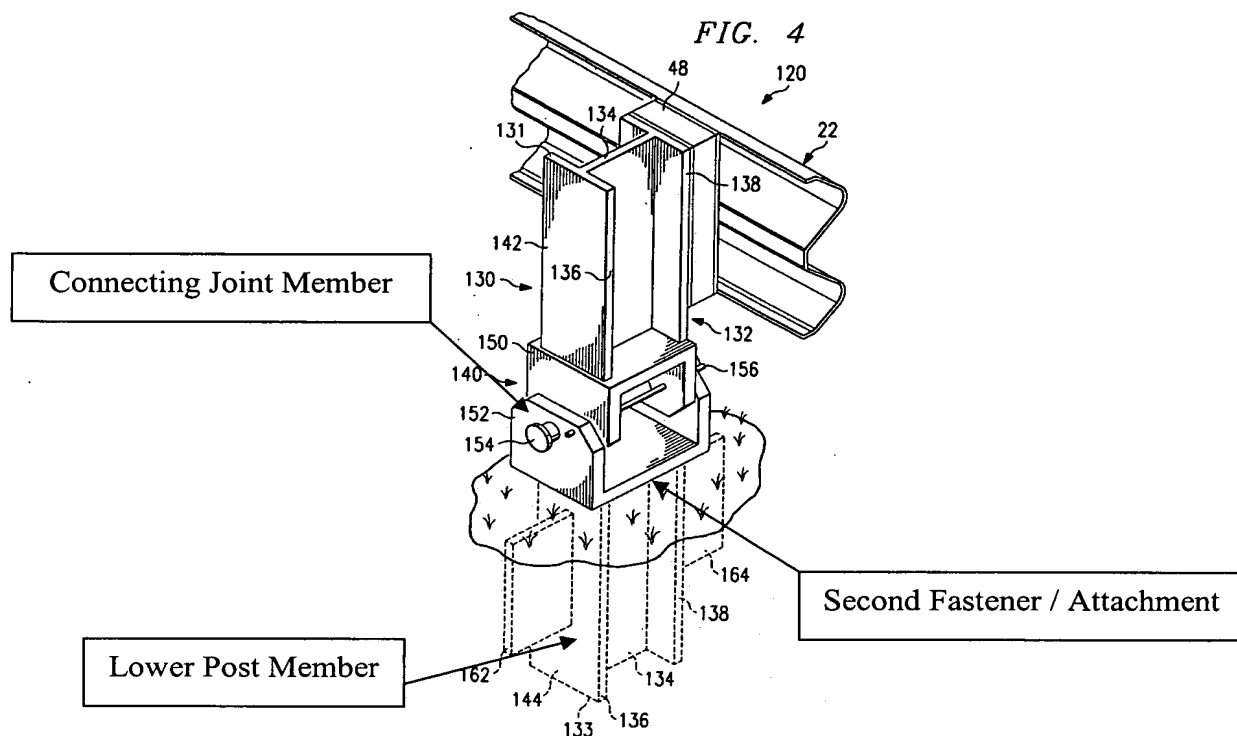
Whichever method of interpretation is used, it would be painfully obvious to one of ordinary skill in the art that these components are functioning to fasten the upper post member to the connecting joint member. The specification explicitly teaches that bracket 150 is "attached" to one end of upper portion 142. *See* Specification, page 20, lines 3-8. The specification further teaches that pivot pin 154 "extends laterally through adjacent portions of bracket 150 and 152 in a direction which is generally parallel with webs 134." *Id.*, page 20, lines 11-14. Also, the specification teaches that shear pin 156 "is laterally inserted through adjacent portions of brackets 150 and 152 offset from pivot pin 154." *Id.*, page 21, lines 5-7. The shear pin "maintains upper portion 142 and lower portion 144 generally aligned with each other during installation of the associated breakaway support post." *Id.*, page 21, lines 12-14. The specification also teaches that rather than using a shear pin, a "wide variety of shear bolts, shear screws, and/or breakaway clamps may be used to releasably attach first

bracket 150 with second bracket 152." *Id.*, page 21, lines 30-33. In a collision, shear pin 156 breaks and the upper and lower members may remain attached by pivot pin 154. *Id.*, page 21, line 34 - page 22, line 3 and Figure 6.

The American Heritage College Dictionary (3rd ed. 2000) includes a definition of "fasten" to mean "attach firmly to; join" The term "fastener" is included at the end of this definition as a noun form of the verb. Figure 6 illustrates that at least in some applications during some collisions, pivot pin 154 remains attached as does bracket 150. Plainly, these fasteners "attach firmly" if they can survive an automobile collision. Shear pin 156 also "attaches firmly" as it can hold the upper portion and lower portion of the post generally aligned with one another. In other words, shear pin 156 prevents rotation of the upper and lower members during installation. One of ordinary skill in the art would plainly conclude that all three elements acted as "fasteners" within the ordinary meaning of the term.

(b) The specification illustrates and describes the joint member attached to the lower post member.

Claim 37 and Claim 40 differ slightly as to the connection to the lower post member. Claim 37 recites an attachment between the joint member and lower post member, while Claim 40 recites a second fastener. While Claims 37 and 40 use different terms to describe the relevant connection, both terms describe the embodiment disclosed in the specification. As illustrated below, Figures 4-6 of Appellant's specification discloses a second fastener (Claim 40) or attachment (Claim 37) connecting a second end of the joint member to a lower post member. Connecting joint member (bracket 152) is connected to a lower post member (lower portion 144) by a second fastener or attachment ("bracket 152 attached to the end of lower portion 144"). *See* Specification, page 20, line 3 - page 21, line 14. The American Heritage College Dictionary (3rd ed. 2000) provides one definition of "attachment" as "[s]omething . . . that attaches one thing to another." The definition of "fastener" was discussed above. Appellant's specification refers to the connection between bracket 152 and lower portion 144 as an "attachment." *See, e.g.*, Specification, page 20, lines 28-31. Moreover, it describes bracket 152 as "attached" to the end of lower portion 144. Specification, page 20, lines 7-8. Thus, Appellant discloses an attachment or second fastener connecting bracket 152 and lower portion 144.



One of ordinary skill in the art would understand that various types of attachment could be used. While the specification does not limit the invention to any particular type of attachment, the Examiner apparently interprets Appellant's disclosed attachment as a weld. *See, e.g.,* Final Office Action, page 3, paragraph 2. The '598 Patent with which Appellant's have requested an interference also indicates that a fastener may include a weld. *See* '598 Patent, col. 2, lines 37-39, col. 4, lines 25-29, Claim 5. Although Appellant disputes that the '598 Patent is prior art, it is a reference before the PTO that may be used for claim interpretation. *See Arthur A. Collins, Inc. v. Northern Telecom Ltd.*, 216 F.3d 1042, 1045 (Fed. Cir. 2000). The view that "fasteners" include welds expressed in the '598 Patent is consistent with an ordinary meaning that a fastener is something that firmly attaches two things together. Appellant agrees that one of ordinary skill would understand that a weld is one form of fastener that could be used to attach bracket 152 to lower portion 144. Moreover, given the described operation of the invention (Specification, page 21, line 34 - page 22, line 3), some form of attachment must be present or the invention would not work in the manner described. If a vehicle smashing into the guardrail causes shear pin 156 to break and the upper post member to pivot, then the joint member 152 must be attached to lower post member 144. If there were no fastener, then joint member 152 and lower post member

144 would separate. One of ordinary skill in the art could only reasonably conclude that a fastener or attachment attaches bracket 152 to lower portion 144.

2. The Specification Discloses the Different Failure Strengths Required by Claims 37 and 40.

Claims 37 recites "said first fastener having a first failure strength less than a second failure strength of said attachment." Claim 40 recites "said first fastener having a first failure strength less than a second failure strength of said second fastener." As indicated above, Appellant discloses a first fastener (the combination of pivot pin 154, shear pin 156 and bracket 150 under the first interpretation or the combination of pivot pin 154 and shear pin 156 under the second interpretation) and a second fastener or attachment (bracket 152 attached to the end of lower portion 144). Figure 6 illustrates the operation of breakaway support post 130 in response to an impact by a vehicle with one end of guardrail 22. *See* Specification, page 9, lines 24-30. As evident in Figure 6, shear pin 156 fails while bracket 152 remains attached to lower portion 144 after a vehicle smashes into the support post. Thus, Appellant's first fastener must have a failure strength less than a failure strength of Appellant's second fastener or attachment. If it did not, then the pin would not break while the second fastener (or attachment) continued to attach bracket 152 to lower portion 144. Appellant notes that while Appellant's drawings and related description in combination demonstrate this element, it should be noted that even drawings alone may be sufficient to satisfy the written description requirement of the first paragraph of 35 U.S.C. §112. *See Vas-Cath v. Mahurkar*, 935 F.2d at 1564.

The Final Office Action states:

[T]here is nothing in the drawings that would indicate that the attachment, referring to the welds, is stronger than the fastener 156. Welds are made of different materials, and done [many] different ways, and can be done to be frangible under certain loads. It is not inherent that [the] attachment, as indicated by the figures, would have greater failure strength than that of the fastener.

Final Office Action, page 3, paragraph 2. It is true that one may design particular embodiments that include an attachment (which could be but is not limited to a weld) between a bracket and a lower portion of a support post that is frangible under different loads in the different embodiments. However, the embodiment whose function is illustrated in Figure 6 and described in the specification will not work as illustrated and described unless the failure strength of the attachment between bracket 152 and lower portion 144 is greater

than the failure strength of shear pin 156. The specification explicitly teaches that a vehicle crash will "break shear pin 156" and, "[a]s a result, upper portion 142 will then rotate relative to lower portion 144 as shown in Figure 6." Such rotation would not occur unless the failure strength of the shear pin 156 was less than the second fastener or attachment.

Moreover, if the failure strength was not as recited in the claims, the invention may not function for at least one intended purpose. One such intended purpose allows for an upper portion of a post to deflect and then break off from a lower portion upon vehicle impact to "minimize lifting of the impacting vehicle into the air." Specification, page 8, lines 8-11. Appellant discloses such an embodiment with respect to Figures 4-6 that works for this intended purpose. Thus, to work for its intended purpose, it is inherent that the shear pin 156 has a failure strength less than a failure strength of the attachment between bracket 152 and lower portion 144. Otherwise, the post would not necessarily deflect.

Appellant notes that the Examiner's position appears to be based upon an argument that the invention might fail if not manufactured properly (e.g., if shear pin 156 does not have a failure strength less than a failure strength of the attachment between bracket 152 and lower portion 144). Even if the Examiner is correct in suggesting that an improperly manufactured invention might fail, this does not take away from the fact that Appellant discloses an embodiment that does properly function according to its intended purpose. Manufacturing issues are irrelevant to the written description requirement and do not diminish the desired behavior of the invention as disclosed in the specification.

The Examiner's position is even harder to understand in light of the claims and disclosure of the '598 Patent. The '598 Patent claims first and second fasteners which are disclosed as at least two through bolts 20A and 20B to hold an upper post member 12 to plates 25. *See* '598 Patent, col. 2, lines 38-40, col. 3, lines 9-18. The fasteners may also be pins or other connectors including welds. *See* '598 Patent, col. 2, lines 38-40. In operation, when a side impact occurs, one of the two fasteners (which as noted could be bolts, pins or welds) breaks. *See* '598 Patent, col. 2, lines 41-44, col. 3, lines 9-18. Thus, the fastener made up of the two bolts in the embodiment described in the '598 Patent fails when one of the two bolts breaks. In the application before the Patent Office, the fastener made up of the two pins fails when one of the two pins breaks.

3. The Specification is Enabling.

As indicated above, the Examiner additionally states ". . . the specification is not enabled for teaching the first and second fasteners, when referred to the welding joint of the connecting member to the upper or lower posts." Final Office Action, page 2, paragraph 2. Appellant notes that Claims 37 and 40 are only formally rejected as failing to comply with the written description requirement of the first paragraph of 35 U.S.C. §112, which is "separate and distinct from the enablement requirement." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563. Moreover, the statute requires that the specification provide an enabling description of the claims. There is no requirement to enable the specification.

In an abundance of caution, Appellant will address the enablement contention assuming the Examiner is contending that the claims are not enabled. "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." *United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). Appellant discloses a particular embodiment in which a pivot pin 154 and a shear pin 156 each extend laterally through respective adjacent portions of brackets 150 and 152 and bracket 152 is attached to lower portion 144. See Specification, page 20, line 3 - page 21, line 7. Moreover, Figures 4 and 5 illustrate pivot pin 154 and shear pin 156 extending laterally through respective adjacent portions of brackets 150 and 152 and bracket 152 attached to lower portion 144. Appellant respectfully submits that one of ordinary skill in the art would be able to connect a bracket 152 to bracket 150 using, for example, a shear pin and a pivot pin, and to connect the bracket 152 to a lower portion 144 of a support post without undue experimentation. Therefore, Appellant's specification contains sufficient information to enable one skilled in the art to make or use the claimed invention without undue experimentation. Thus, Claims 37 and 40 comply with the enablement requirement of the first paragraph of 35 U.S.C. §112.

4. The PTO's Position on the Written Description Issue has not Been Consistent

Appellant notes that multiple Primary Examiners of the PTO, including previous Primary Examiner Harry Kim and current Examiner John R. Cottingham, have previously indicated that pending subject matter currently rejected under the first paragraph of §112 was in fact in compliance with the first paragraph of §112. For example, in an Office Action mailed October 22, 2001, previous Primary Examiner Harry Kim indicated that Claim 38

which included the limitations of current pending Claim 37 would be allowable if rewritten in independent form. *See* Office Action mailed Oct. 22, 2002, page 3. In addition, in a Notice of Allowance and Fee(s) Due mailed February 22, 2002, Examiner Cottingham allowed Claim 37, indicating that it was in compliance with the written description requirement of the first paragraph of 35 U.S.C. § 112. *See* Notice of Allowance and Fee(s) Due mailed Feb. 22, 2002.

CONCLUSION

Appellant has demonstrated that the present invention, as claimed, is patentable under the first paragraph of 35 U.S.C. §112. Therefore, Appellant respectfully requests the Board of Patent Appeals and Interferences to reverse the final rejection of the Examiner and instruct the Examiner to grant Appellant's pending request that an interference be declared between the present Application and U.S. Patent 5,988,598.

Appellant has enclosed a check in the amount of \$330.00 to cover the statutory filing fee for this Appeal Brief. Although Appellant believes no other fees are due, the Commissioner is hereby authorized to charge any additional fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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Enclosures: Appendix A - Claims on Appeal
Appendix B - United States Patent No. 5,988,598

**APPENDIX A****Claims on Appeal**

37. A breakaway guardrail post for highway crash control systems comprising:
an upper post member having a weak impact axis and a strong impact axis;
a lower post member disposed beneath and spaced apart from said upper post member;

a connecting joint member having a first end and a second end, said first end of said joint member connected at said first end by a first fastener to said upper post member and connected at said second end by an attachment to said lower post member, said first fastener having a first failure strength less than a second failure strength of said attachment;

said first fastener having a first connector having a first failure strength and a second connector having a second failure strength; and

said first failure strength greater than said second failure strength such that upon an impact force being applied along said weak impact axis, said second connector fails and said upper post member rotates about said first connector.

40. A breakaway guardrail post for highway crash control systems comprising:
an upper post member having a weak impact axis and a strong impact axis;
a lower post member disposed beneath and spaced apart from said upper post member;

a connecting joint member having a first end and a second end, said first end of said joint member connected at said first end by a first fastener to said upper post member and connected at said second end by a second fastener to said lower post member, said first fastener having a first failure strength less than a second failure strength of said second fastener;

said first fastener having a first connector having a first failure strength and a second connector having a second failure strength; and

said first failure strength greater than said second failure strength such that upon an impact force being applied along said weak impact axis, said second connector fails and said upper post member rotates about said first connector.

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PATENT APPLICATION
09/074,496

16



APPENDIX B

United States Patent No. 5,988,598